IN THE CLAIMS

1. (Previously Presented) A method for controlling a steering assembly of a vehicle comprising the steps of:

analyzing a current vehicle driving-scenario as indicated by signals from a plurality of sensors comprising sensors for determining at least three of the following group of vehicle parameters: vehicle speed, vehicle yaw rate, steering wheel rotation-angle and vehicle lateral acceleration;

determining a desired steering wheel resist torque that should be felt by a driver of the vehicle, said desired steering wheel resist torque based upon the current vehicle driving-scenario;

sensing an actual steering wheel resist torque that is felt by the vehicle driver;

comparing the actual steering wheel resist torque with the desired steering wheel resist torque;

calculating a steering assist force which is required to be applied to the steering assembly in order to make the actual steering wheel resist torque substantially equal to the desired steering wheel resist torque; and

activating a motor to apply the steering assist force to the steering assembly.

2. (Cancelled)

3. (Original) The method according to claim 1 wherein the step of calculating the steering assist force comprises applying a filter function based on an inverse model of steering properties of the vehicle.

4. (Original) The method according to claim 1 wherein the step of calculating the steering assist force comprises:

calculating a value of a preliminary assist force; and

calculating an adjustment value for adjusting said preliminary assist force.

5. (Original) The method according to claim 4 wherein said adjustment value is calculated to minimize errors from the first controller and to minimize disturbances and measurement noise received from the steering system and to reduce the influence of road disturbances in the steering wheel.

6. (Original) The method according to claim 4 wherein a sum of the preliminary assist force and the adjustment is submitted to a motor controller to activate the motor.

7. (Previously Presented) A control system for a steering assembly of a vehicle comprising:

a plurality of sensors operative to detect vehicle parameters and generate signals indicating a current vehicle driving-scenario, with said plurality of sensors comprising sensors for determining at least three of the following group of vehicle parameters: vehicle speed, vehicle yaw rate, steering wheel rotation-angle and vehicle lateral acceleration;

a generator operatively connected to the plurality of sensors to receive the signals and calculate a desired steering wheel resist torque that should be felt by a driver of the vehicle;

a torque estimator measuring an actual resist torque felt by the driver;

a comparator receiving the desired steering wheel resist torque from the generator and receiving the actual resist torque from the torque estimator and calculating a difference signal therefrom;

at least one controller receiving the difference signal and calculating a steering assist force which is required to be applied to the steering assembly in order to make the actual steering wheel resist torque substantially equal to the desired steering wheel resist torque; and

a motor to apply the steering assist force to the steering assembly.

8. (Original) The control system according to claim 7 wherein the generator applies a filter function based on an inverse model of steering properties of the vehicle.

9. (Original) The control system according to claim 7 wherein the at least one controller is a feed-forward controller.

10. (Original) The control system according to claim 7 wherein the at least one controller comprises a first controller operative to calculate a preliminary assist torque and a

second controller operative to calculate an adjustment value for adjusting said preliminary assist force.

11. (Original) The control system according to claim 10 wherein the adjustment value is calculated to minimize errors from the first controller and to minimize disturbances and measurement noise received from the steering system and to reduce the influence of road disturbances in the steering wheel.

12. (Original) The control system according to claim 10 wherein the first controller operates in a feedforward mode and the second controller operates in a feedback mode.